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#### BRIEF DESCRIPTION OF THE DRAWING DRAWINGS

FIGURE 1 is a frontal perspective view of a dental scaler system in accordance with the invention with the housing in its vertical position.

FIGURE 2 is a side perspective view of a dental scaler system in accordance with the invention with the housing in its vertical position.

FIGURE 3 is a side perspective view of the housing in its vertical position as shown in FIGURE 2.

FIGURE 4 is a frontal perspective view of the housing in its horizontal position.

FIGURE 5 is a rear perspective view of the housing.

FIGURE 6 is a schematic diagram of the circuit of the dental scaler system of FIGURES 1 THROUGH 5.

#### DETAILED DESCRIPTION OF THE INVENTION

The invention is now described with more particular reference to FIGURES 1 through 6. With more particular reference to FIGURE 1 is seen dental scaler system 10 having dental scaler apparatus 12 and scaler handpiece 14 having coil 16. Scaler handpiece 14 has tip ~~15~~ (not shown) and magnetostrictive stack ~~17~~ (not shown). Dental scaler apparatus 12 has housing 18 and scaler power control circuit 20. Dental scaler system 10 is supported by horizontal support surface 13. The coil 16 is connected through an electrical conductor 22 to scaler power control circuit 20. Control adjuster 21, which may be a variable resistor, is connected through control side 23 to scaler power control circuit 20. Knob 19 is connected to control adjuster 21.

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### REMARKS

#### *Disposition of Claims*

Upon entry of the foregoing amendments, claims 1, 3-6, and 8-10 will remain pending in the application and stand ready for further action on the merits. Claims 1 and 6 have been amended to clarify that the housing of the dental scaler apparatus is a unitary, single piece structure having a first base side integrally connected to a second base side. The first and second base sides each include foot projections for supporting the apparatus in vertical and horizontal positions, respectively. The apparatus further includes a holder side portion, which is integrally connected to the second base side. The holder side portion includes a cradle for storing the scaler handpiece therein when the handpiece is not being used. In addition, dependant claims 2 and 7 and method claims 11-20 been canceled without prejudice or disclaimer of the subject matter contained therein. The limitations of claims 2 and 7 have been incorporated into claims 1 and 6, respectively. The amendments to claims 1 and 6 are fully supported by the specification, particularly at page 2, paragraph 4; and by the drawings and originally filed claims. No new matter has been added to the application.

#### *Objections to the Drawings*

The Office Action first objects to the drawings under 37 CFR §1.83(a), asserting that the drawings do not show every element that is given a reference numeral in the Specification. More particularly, the first paragraph under the heading, "Detailed Description of the Invention" at page 1 describes a scaler handpiece (14) having a tip (15) and magnetostrictive stack (17). As the Examiner correctly points out, the drawings do not call out the tip (15) or magnetostrictive stack (17). The Office Action requests that corrected drawing sheets, showing the tip and magnetostrictive elements, be submitted. Instead, Applicants have amended the Specification, as detailed above, to clearly state that the tip and magnetostrictive elements are not shown in the drawings. It is respectfully submitted that this amendment is proper. The tip and magnetostrictive stack are commonly known elements used in conventional dental scaler systems. The tip and magnetostrictive stack make up the insert that is placed into the handpiece -- the insert is an accessory element to the dental scaler apparatus. It is not essential that the tip and

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magnetostrictive stack be shown in the drawings in order to have a proper understanding of the invention. In view of the foregoing amendments to the Specification, this objection to the drawings should be considered moot. Applicants respectfully submit that the drawings, as filed, meet all of the requirements of 37 CFR §1.83(a) and request that this objection be withdrawn.

#### *Objections to the Specification*

The Office Action objects to the title of the invention and requests that the Specification be amended to include a more descriptive title. In response, the title has been amended to read "VERTICALLY AND HORIZONTALLY STANDING DENTAL SCALER SYSTEM AND METHOD" as noted above. In view of the amendment made to the title, Applicants respectfully request that this objection be withdrawn.

The Office Action next objects to the Specification, because it is missing certain sections including "Background of the Invention" and Brief Summary of the Invention." In response, the Specification has been amended as noted above. All of the amendments made to the Specification are supported by the originally filed Specification. No new matter has been added to the application. Applicants now believe that the elements of the Specification are arranged properly and conform to the requirements under 37 C.F.R. §1.77. In view of the amendments made to the Specification, Applicants respectfully request that this objection be withdrawn.

#### *Claim Rejections Under 35 U.S.C. §103*

The Office Action rejects claims 1-3 and 11-14 under 35 U.S.C. §103(a) as being unpatentable over Pollock et al., U.S. Patent 6,450,811 ("Pollock") in view of an article entitled "New SEAGATE External Hard Drive is Easiest, Most Rugged, and Coolest on the Market" (September, 2003) from the website, [www.SIAGATE.com](http://www.SIAGATE.com) ("SEAGATE"). It is respectfully submitted that the presently claimed invention, as recited in amended claims 1-20, is not prima facie obvious over the disclosures in Pollock and SEAGATE for the reasons discussed below.

Dental practitioners use ultrasonic dental scaler systems to provide therapeutic and preventive care to their patients. The scaler is used primarily to remove calculus deposits and heavy plaque from tooth surfaces. Referring to FIG. 5 of the subject application, dental scaler

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systems generally include a power base unit (10). A flexible handpiece cable (62) connects a handpiece (14) to the base unit (12). An ultrasonic scaling insert having a tip (not shown) is inserted into the handpiece (14). The scaling insert, which is often based on magnetostrictive technology (not shown), vibrates at an ultrasonic frequency to remove the calculus/plaque from tooth surfaces. The scaling insert also may include a conduit for delivering water or other lavage fluids to the tip of the insert. The water is used to irrigate and clean the oral cavity of debris. A water supply line (60) is used to provide water to the scaler system. As shown in FIG. 5, one end of the water supply line is inserted into a connector located on the backside panel of the base unit (10). The other end of the water supply line is connected to a dental office water line (not shown).

Pollock was interested in developing a dental scaler system having a self-contained water reservoir. Pollock contemplated that the dental practitioner could use such a system in locations where a water supply line was not available. This would allow the practitioner to provide scaling treatment wherever he or she wanted to do so. The reservoir could be used to deliver clean water or medicaments effectively to the scaling insert. Pollock describes such a dental scaler system in the '811 Patent. As the Examiner recognizes, the system (10) includes a scaler housing (12), which is positioned above and releasably connected to a reservoir housing (14) and positioned to the side of a compressor housing (16). The scaler housing is "snap-fit" connected to the reservoir and compressor housings (14, 16). In other words, the system (10) described in Pollock is made up of separate housing components that are snap-fitted together. Pollock describes that the scaler housing (12) can be used with the compressor and reservoir housings (14, 16) disconnected (col. 5, lines 59-63). Alternatively, and preferably, the scaler housing (12) is connected to the compressor and reservoir housings (14, 16) (col. 7, lines 44-59).

In contrast to the dental scaler system described in Pollock, the system of the present invention requires a unitary, single-piece, scaler housing (10). The housing (10) includes a first base side panel (26), a second base side panel (40), and a holder side panel (25), which are each integrally connected together. The connectors for the handpiece cable (62) and water supply line (60) and electrical connectors are located on the rear side panel of the housing (10) as shown in

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FIG. 5. There are no detachable housings or units in the system of the present invention. Claims 1 and 6 have been amended to clarify this point.

Turning back to Pollock, as the Examiner points out, the scaler housing (12) is shown as having a first base side (12B) with a plurality of base feet (24RS), (26RS), (24S), and (26S) (FIG. 6). Thus, if the scaler housing (12) is disconnected from the reservoir housing (14), it can be supported in a horizontal position on a table, counter top, or other surface by the base feet (24RS, 26RS, 24S, and 26S). But, there is no disclosure or suggesting for supporting the scaler housing (12) in a vertical position.

Concerning the disclosure in SEAGATE, Applicants first respectfully submit that this reference should be considered non-analogous art because it is not pertinent to the field of the invention. The SEAGATE reference describes external hard drives for computers. The hard drive includes non-slip rubber feet on two sides of the structure so that it can be "arranged in many convenient ways and not slide around or slip off a desk." But, the SEAGATE reference is not concerned with the problem of making vertically and horizontally standing dental scaler units that require handpiece connectors and water line connectors as faced by Applicants. Thus, the SEAGATE reference should not be relied upon to make a rejection under 35 U.S.C. §103(a). Even if the SEAGATE reference were analogous art, it is respectfully submitted that Applicants' invention, as presently claimed, would not be prima facie obvious over Pollock in view of SEAGATE.

The Examiner takes the position that it would have been obvious to modify the structure of the scaler housing, as described in Pollock, so that it included supporting feet on two base sides, allowing the housing to be arranged in vertical and horizontal positions.

But, there first must be some hint, suggestion, or motivation in the disclosures of Pollock and SEAGATE for combining these references. Modifying the Pollock scaler housing so that it included supported feet on two base sides would be cumbersome and impractical. Referring to FIGS. 4 in Pollock, the scaler housing (12) is shown having a power adjuster knob (22) located on one curve-shaped end of the housing. It would not be feasible to equip this end of the housing

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with support feet, because of its contoured shape and presence of the power adjuster knob. As shown in FIG. 5, the opposing flat-shaped second end of the housing contains multiple connectors for the handpiece cable, footswitch cable, electrical cord, and the like. Thus, it would not be practical to place supporting feet at this end of the housing.

Furthermore, there is no disclosure or suggestion in either Pollock or SEAGATE for a dental scaler housing having a unitary, single piece structure. As discussed above, Applicants' scaler housing includes an integrally connected first base side panel, second base side panel, and holder side panel. This integrated structure is advantageous, because it makes the scaler housing durable and compact. The versatile scaler housing can be placed easily in a vertical or horizontal position. Modifying the scaler system in Pollock so that it included an integrally connected reservoir and compressor housing would be a complete reconstruction of the device. This redesign would completely change how the Pollock scaling device operates. The essence of the invention described in Pollock would be destroyed. It is respectfully submitted that making such a modification to the Pollock scaling device is not proper. Thus, the presently claimed invention should not be held prima facie obvious in view of the disclosures in Pollock and SEAGATE.

The Office Action next rejects claims 4-8, 10, and 15-19 under 35 U.S.C. §103(a) as being unpatentable over Pollock in view of SEAGATE and Hoffman, U.S. Patent 4,501,355 ("Hoffman").

Claims 4-5 are ultimately dependent on claim 1 and claims 7-8 and 10 are ultimately dependent on claim 6. Applicants believe that independent claims 1 and 6 are allowable for the reasons discussed above. Accordingly, Applicants believe that dependent claims 4-5, 7-8, and 10 should be allowed as well. Claims 15-19 have been canceled.

Addressing Hoffman for the sake of making a complete response, this reference is directed to a soap saving device. Two pieces of soap are placed between opposing soap dishes. Using different compressive force mechanisms, the soap dishes are nested together to pressure bond the soap pieces together. In one example, an elastic band is used to provide the compressive force. In a second instance, tension bars are hinged to one soap so that they may

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pivot into locking alignment with a pair of slots located in the opposing soap dish. In a third embodiment, the sidewalls of the first soap dish contain locking ridges that adjustably engage locking ridges located on the opposing soap dish. There is no disclosure or suggestion of the presently claimed invention in Hoffman.

Lastly, the Office Action rejects claims 9 and 20 under 35 U.S.C. §103(a) as being unpatentable over Pollock in view of SEAGATE, Hoffman, and Sheridan et al., U.S. Patent 5,127,830 ("Sheridan"). Claim 9 is dependent upon claim 6 and should be allowable for the reasons discussed above. Claim 20 has been canceled.

Addressing Sheridan, this reference is directed to a dental instrument shield that can be mounted on an instrument support bar, console, or other surface. The curved, transparent shield is designed to extend over sharp dental handpieces such as dental drills and probes that may accidentally pierce a person's skin. There is no disclosure or suggestion of the presently claimed invention in Sheridan.

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***Conclusion***

In summary, Applicant submits that claims 1-20 as amended are patentable and each of the Examiner's rejections and objections has been overcome. Accordingly, Applicant requests favorable consideration and allowance of amended claims 1-20.

The Commissioner is hereby authorized to charge any additional fee required in connection with the filing of this paper or credit any overpayment to Deposit Account No. 04-0780. Should there be any outstanding matter that needs to be resolved in the present application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Respectfully submitted,

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Attachments: Petition for Extension of Time